

# TRACER<sup>®</sup>

## WIRELESS 2xT1 RACKMOUNT

### PRODUCT FEATURES

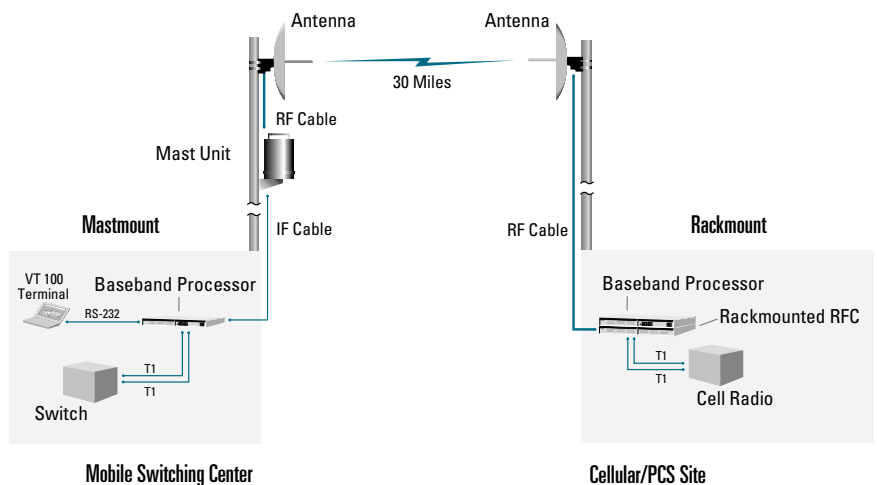
- Digital microwave radio
- Dual T1
- No license required: FCC rules part 15.247
- Direct sequence spread spectrum
- Frequency 2.4 to 2.4835 GHz
- Frequency agile
- Remote loopback
- Remote control of far-end
- Point-to-point, up to 30 miles
- 2U, 19" rack space
- Industry leading 5-year warranty

The ADTRAN<sup>®</sup> TRACER<sup>®</sup> is an unlicensed digital microwave radio that uses spread spectrum technology to provide two, independent T1 communication links. As authorized under part 15.247 of the FCC Rules, TRACER operates in the 2.4-2.4835 GHz industrial, scientific, and medical (ISM) band.

The TRACER is composed of two primary hardware elements; a Baseband Processor (BBP) and a Radio-Frequency Converter (RFC). All signaling and power functions between the BBP and the RFC are provided over a single coax connection.

TRACER transports two T1 digital signals in any framing or line code format and provides two DS1/DSX-1 interfaces. A separate maintenance channel is embedded in the TRACER data stream, providing remote configuration and monitoring functions. The maintenance channel is provided without impacting the T1 capacity.

By using the latest technology and incorporating ADTRAN's ISO 9001 manufacturing processes, ADTRAN has designed TRACER to provide the highest levels of reliability and durability. As a result, TRACER is backed by an industry-leading standard 5-year warranty and ADTRAN's outstanding 24-hour technical support.



Mast- and Rackmounted RFCs may be mixed to accommodate individual system requirements.

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64280TRACERT1L2-8D May 1999  
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# Product Specifications

## TRANSMITTER

- **Output Power:** +20 dBm Max
- **Frequency Band:** 2.4 to 2.4835 GHz
- **Channel Bandwidth:** 40 MHz
- **Intermediate Frequency:** 140 MHz

## RECEIVER

- **Receive Level Threshold:** -91 dBm (10<sup>-6</sup> BER)
- **Receive Level Max:** -30 dBm
- **Receive Level Nominal:** -60 dBm
- **Frequency Range:** 2.4 to 2.4835 GHz
- **Channel Bandwidth:** 40 MHz
- **Intermediate Frequency:** 70 MHz

## FREQUENCY PLAN

- A-TX 2.422 GHz                      RX 2.462 GHz
- B-TX 2.462 GHz                      RX 2.422 GHz

## SPREAD SPECTRUM DATA PUMP

- **Modulation:** QPSK
- **Spreading Method:** Direct sequence
- **Codes:** 10
- **Code Length:** 120
- **Processing Gain:** >12dB
- **Spreading Rate:** 12 times

## RADIO FREQUENCY CONVERTER

- **Preselector Filter:** Cavity tuned
- **Antenna Port:** N-type, female
- **Impedance:** 50 Ω

## DIGITAL INTERFACE

- **Capacity:** 2 x T1
- **Data Rate:** 2 x 1.544 Mbps
- **Digital Interface:** DS1, DSX-1
- **Connection:** RJ-48C, Bantam
- **Monitor:** Bantam
- **Line Code:** AMI, B8ZS
- **Framing:** SF, ESF
- **Alarms:** YEL/AIS, Red, BPV
- **Loopbacks:** Local & remote



2xT1 Baseband Processor



Rackmounted RFC

## USER INTERFACE

- **Front Panel:** Status LEDs, configuration switches
- **Diagnostics:** T1 loopback, remote test with BERT, self-test
- **Test Points:** RSSI, system voltages, I & Q
- **Alarm Contacts:** Major, minor (normally open or closed)

## TERMINAL INTERFACE

- **Function:** Menu-driven user interface, monitor & control of local & remote end, password protected, event history
- **Data Rate:** 9600 Bps
- **Emulation:** VT 100
- **Connection:** DB-25 (RS-232)

## MECHANICAL & ENVIRONMENTAL

### Baseband Processor

- **Operating Temperature:** -25° to 65°C
- **Width:** 16.75", (for 19" EIA rackmounting)
- **Height:** 1U (1.75")
- **Depth:** 11.5"
- **Humidity:** 95%, non-condensing
- **Weight:** 6 lbs

### Rackmount RFC

- **Operating Temperature:** -40° to 65°C
- **Width:** 16.75", (for 19" EIA rackmounting)
- **Height:** 1U (1.75")
- **Depth:** 11.5"
- **Humidity:** 95%, non-condensing
- **Weight:** 9 lbs

### Power

- **Input Voltage:** 21-56 VDC
- **Power Consumption:** 30 watts, (amperage=30 watts/voltage)
- **DC Connector:** 3-pin screw clamp
- **AC Adapter Connector:** 3-pin DIN

# Ordering Information

## EQUIPMENT

## PART #

2xT1 Rackmounted system, preconfigured frequency plan A.....	4280TRACERT1L2-A
2xT1 Rackmounted system, preconfigured frequency plan B.....	4280TRACERT1L2-B
Systems are shipped with pre-configured frequency plans, but may be switched without additional equipment to accommodate either plan	
AC Adapter .....	1360DSK24VL1

## REGULATORY COMPLIANCE

FCC Part 15.247 .....	HDCTRACER2T1
FCC Part 68 .....	HDCUSA-32567-DE-N
Industry Canada .....	2250911A
.....	2250391123A

TRACER is a registered trademark of ADTRAN, Inc.  
TRACER is also available in a Mastmount configuration.  
For information on this equipment please see ADTRAN document number 64280TRACERT1L1-8B.

Specifications subject to change without notice.